

WHAT IS CLAIMED IS:

1. A multilayer printed circuit board (PCB), comprising:

a first signal transmission line;

5 a second signal transmission line opposite to the first transmission line;

a first ground layer opposite to the first transmission line;

10 a second ground layer opposite to the first ground layer;

a first insulator disposed between the first and second transmission lines;

a second insulator disposed between the first and second ground layers;

15 a signal via passing through the first insulator and connected between the first and second transmission lines, the signal via being separated from the first and second ground layers; and

20 a ground via passing through the second insulator and connected between the first and second ground layers, the ground via being separated from the signal via,

25 wherein the first ground layer has an end protruding with respect to the second layer, the end extending nearer to the signal via than an end of the second ground layer opposite to the end.

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2. The multilayer PCB according to claim 1,
wherein the end of the first ground layer includes
a portion which abuts an end face of the ground via and
a portion directly adjacent to the abutting portion,

5 wherein the end of the second ground layer abuts
an opposite end face of the ground via, and

wherein the adjacent portion of the first ground
layer extends from the ground via toward the signal via
along the first transmission line beyond the end of the
10 second ground layer.

3. The multilayer PCB according to claim 1,
wherein the first ground layer has a larger area
overlaid with the first transmission line than the
second ground layer.

15 4. The multilayer PCB according to claim 1,
further comprising another plurality of ground vias,
wherein the ground via and the other plurality of
ground vias are disposed at equal intervals on a line
forming a square around the signal via.

20 5. The multilayer PCB according to claim 1,
further comprising another plurality of ground vias,
wherein the ground via and the other plurality of
ground vias are disposed at equal intervals on a line
forming a circle around the signal via.

25 6. A light transceiver, comprising:
the multilayer PCB according to claim 1; and

a light-emitting module, a light-receiving module,
and an electronic element mounted on the multilayer PCB,
wherein the electronic element is electrically
connected to the light-emitting module or the light-
receiving module via the first and second transmission
lines of the PCB.

5 7. A transponder, comprising:
 the multilayer PCB according to claim 1;
 a light-emitting module, a light-receiving module,
10 a multiplexing IC, and a demultiplexing IC fixed to the
 multilayer PCB,
 wherein either the light-emitting module and the
 multiplexing IC or the light-receiving module and the
 demultiplexing IC are electrically connected by the
15 first and second transmission lines of the PCB.